TENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
000165		
International application No.	International filing date *(day month year)*	(Earliest) Priority Date *(day month year)*
PCT/JP 00/07017	06/10/2000	08/10/1999
Applicant		
CHUBUSHIRYO CO., LTD.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

 a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

 [] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

 b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

 [] contained in the international application in written form.

 [] filed together with the international application in computer readable form.

 [] furnished subsequently to this Authority in written form.

 [] furnished subsequently to this Authority in computer readble form.

 [] the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

 [] the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. [] **Certain claims were found unsearchable** (See Box I).

3. [] **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

 [X] the text is approved as submitted by the applicant.

 [] the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

 [X] the text is approved as submitted by the applicant.

 [] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. 1

 [X] as suggested by the applicant.

 [] None of the figures.

 [] because the applicant failed to suggest a figure.

 [] because this figure better characterizes the invention.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/JP 00/07017

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A23K1/00 A23K1/14 A23N17/00 A23K1/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A23K A23N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, FSTA, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	US 3 881 024 A (PAHOUNDIS JAMES T E ET AL) 29 April 1975 (1975-04-29) column 6, line 40 -column 7, line 4 column 9, line 52-65 claim 1; examples 1,5	1-6
Y		9-11

X	GB 1 420 213 A (WASHBOURNE J F;WILTON B) 7 January 1976 (1976-01-07) page 1, column 1, line 38 -column 2, line 53 page 2, column 2, line 128 -page 3, column 1, line 37 claims 1,2	1-3,6

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[X] Further documents are listed in the continuation of box C

[X] Patent family members are listed in annex

Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
12 January 2001	24/01/2001

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax (+31-70) 340-3016	Rooney, K

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Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

International Application No
PCT/JP 00/07017

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 736 176 A (GOMBOS JOHN M ET AL) 7 April 1998 (1998-04-07) column 4, line 55-58 claims 1,5,6	1-6
X	US 4 297 091 A (STREFLING MICHAEL R) 27 October 1981 (1981-10-27) claims 1,3,4,7; figures 1-3	7,8
Y		9-11
A	DATABASE WPI Section PQ, Week 197614 Derwent Publications Ltd., London, GB; Class P14, AN 1976-d1983x XP002157236 & SU 477 708 A (CHUVASH AGRIC INST), 5 August 1975 (1975-08-05) abstract	12

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/JP 00/07017

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3881024 A	29-04-1975	NONE	
GB 1420213 A	07-01-1976	NL 7301348 A	02-08-1973
US 5736176 A	07-04-1998	US 5689941 A	25-11-1997
US 4297091 A	27-10-1981	NONE	
SU 477708 A	25-07-1975	NONE	

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11/368074 24 December 1999 (24.12.1999) JP

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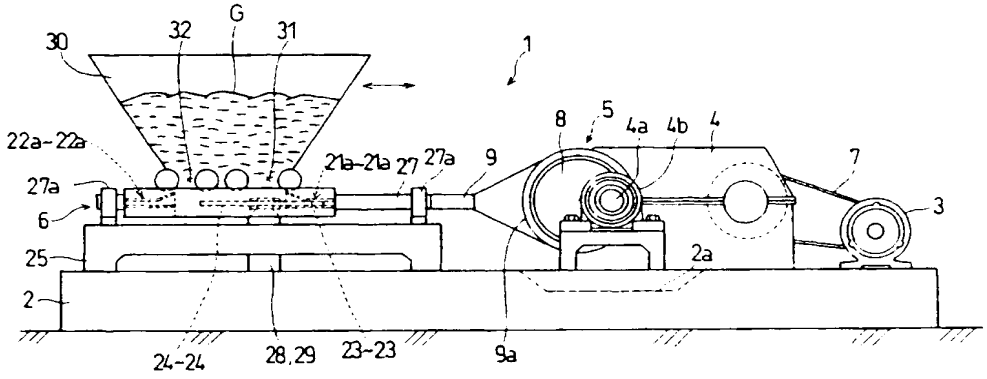
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(81) Designated States *(national)*: AU, CA, CN, JP, KR, NZ, US

Published:
With international search report.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: COMPRESSED SOLID FEED AND COMPRESSED SOLID FEED FORMING APPARATUS



(57) Abstract: Compressed solid feed is taught that includes fibrous plant materials, e.g. plant stalks and leaves, having a length of at least about 3 cm in at least 20 % of the total weight of the compressed solid feed. The compressed solid feed may have a density between about 4.0 to 0.6 g/cm^3. A blended feed for ruminant livestock is also taught that comprises this compressed solid feed in at least 15 % of the total weight of the blended feed. An apparatus adapted to form compressed solid feed may include at least one die comprising a plurality of tapered raw material receiving spaces each having an inlet and an outlet and a plurality of pushing rods installed opposite to the inlets of the raw material receiving spaces. The pushing rods may be adapted to compress raw materials by reciprocating relative to the dies along the axial direction of the inlets and outlets of the raw material receiving spaces. Methods for making compressed solid feed are also taught and may preferably use such apparatus. These methods may include preparing a raw material that contains at least about 60% by weight of fibrous plant materials having a length greater than 3 cm, supplying the raw material to the raw material receiving spaces and compressing the raw material to form the compressed solid feed. Further, livestock can be fed using an automatic feed distributing machine to distribute the above-described blended feed and the need for other cellulose-based feed is eliminated.

WO 01/26480 A1